

V. Dividend Discount Models

End of Chapter Exercises: Chapter 13 Dividend Discount Models

In the problems following, use an equity risk premium of 5.5 percent if none is specified.

2. Ameritech Corporation paid dividends per share of \$3.56 in 1992, and dividends are expected to grow 5.5% a year forever. The stock has a beta of 0.90, and the Treasury bond rate is 6.25%. (Risk premium is 5.5%.)

a. What is the value per share, using the Gordon growth model?

Answer:

b. The stock was trading for \$80 per share. What would the growth rate in dividends have to be to justify this price?

Answer:

3. Church & Dwight, a large producer of sodium bicarbonate, reported earnings per share of \$1.50 in 1993 and paid dividends per share of \$0.42. In 1993, the firm also reported the following:

Net income = \$30 million

Interest expense = \$0.8 million

Book value of debt = \$7.6 million

Book value of equity = \$160 million

The firm faced a corporate tax rate of 38.5%. (The market value debt-to-equity ratio is 5%. The Treasury bond rate is 7%.)

The firm expected to maintain these financial fundamentals from 1994 to 1998, after which it was expected to become a stable firm, with an earnings growth rate of 6%. The firm's financial characteristics were expected to approach industry averages after 1998. The industry averages were as follows:

Return on capital = 12.5%

Debt/equity ratio = 25%

Interest rate on debt = 7%

Church & Dwight had a beta of 0.85 in 1993, and the unlevered beta was not expected to change over time.

- a. What is the expected growth rate in earnings, based on fundamentals, for the high-growth period (1994 to 1998)?

Answer:

- b. What is the expected payout ratio after 1998?

Answer:

- c. What is the expected beta after 1998?

Answer:

- d. What is the expected price at the end of 1998?

Answer:

- e. What is the value of the stock, using the two-stage dividend discount model?

Answer:

- f. How much of this value can be attributed to extraordinary growth? To stable growth?

Answer:

4. Oneida Inc, the world's largest producer of stainless steel and silverplated flatware, reported earnings per share of \$0.80 in 1993, and paid dividends per share of \$0.48 in that year. The firm was expected to report earnings growth of 25% in 1994, after which the growth rate was expected to decline linearly over the following six years to 7% in 1999. The stock was expected to have a beta of 0.85. (The Treasury bond rate is 6.25%, and the risk premium is 5.5%.)

a. Estimate the value of stable growth, using the H model.

Answer:

b. Estimate the value of extraordinary growth, using the H model.

Answer:

c. What are the assumptions about dividend payout in the H model?"

Answer: